



State Revolving Fund Loan Programs **Drinking Water, Wastewater, Nonpoint Source**

ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT

ST. JOSEPH COUNTY REGIONAL WATER & SEWER DISTRICT GRANGER BUSINESS ASSOCIATION NEW SANITARY SEWER SYSTEM AND REGIONALIZATION WITH ELKHART

STATE REVOLVING FUND PROJECT # WW09 62 71 01

DATE: September 30, 2011

TARGET PROJECT APPROVAL DATE: October 31, 2011

I. INTRODUCTION

The above entity has applied to the State Revolving Fund (SRF) Loan Program for a loan to finance all or part of the wastewater project described in the accompanying Environmental Assessment (EA). As part of facilities planning requirements, an environmental review has been completed which addresses the project's impacts on the natural and human environment. This review is summarized in the attached EA, which can also be viewed at <http://www.in.gov/ifa/srf/>.

II. PRELIMINARY FINDING OF NO SIGNIFICANT IMPACT (FNSI)

The SRF has evaluated all pertinent environmental information regarding the proposed project and determined that an Environmental Impact Statement is not necessary. Subject to responses received during the 30-day public comment period, and pursuant to Indiana Code 4-4-11, it is our preliminary finding that the construction and operation of the proposed facilities will result in no significant adverse environmental impact. In the absence of significant comments, the attached EA shall serve as the final environmental document.

III. COMMENTS

All interested parties may comment upon the EA/FNSI. Comments must be received at the address below by the target project approval date. Significant comments may prompt a reevaluation of the preliminary FNSI; if appropriate, a new FNSI will be issued for another 30-day public comment period. A final decision to proceed, or not to proceed, with the proposed project shall be effected by finalizing, or not finalizing, the FNSI as appropriate. Comments regarding this document should be sent within 30 days to:

**Max Henschen
Senior Environmental Manager
State Revolving Fund -- IGCN 1275
100 N. Senate Ave.
Indianapolis, IN 46204
mhensche (at) ifa.in.gov**

ENVIRONMENTAL ASSESSMENT

I. PROJECT IDENTIFICATION

Project Name: **Granger Business Association (GBA)
New Sanitary Sewer System &
Regionalization with Elkhart**
St. Joseph County Regional Water & Sewer District
227 West Jefferson Boulevard
Seventh Floor
South Bend, IN 46601

SRF Project Number: WW09 62 71 01

Authorized Representative: Jessica Clark, President
St. Joseph County Regional Water & Sewer District

II. PROJECT LOCATION

The GBA project area is in extreme northeast St. Joseph County in northern Indiana and also in southwest Ontwa Township, Cass County, Michigan. The project proposes the installation of a low pressure grinder pump system, a 6-inch forcemain located in Indiana and Michigan, a new lift station in Granger, and expansion of a lift station in the Village of Edwardsburg, Michigan

In Indiana, the project will occur in Harris Township, Edwardsburg MI - IN USGS quadrangle, T38N, R4E, sections 7 and 18, as well as T38N, R3E, Sections 12 and 13; the project will also occur in Harris Township, Niles East MI – IN USGS quadrangle, T38N, R3E, section 13.

The Michigan portion of the proposed forcemain will be located in the Edwardsburg USGS quadrangle, Milton Township, T8S, R16W, section 24 and on the same quadrangle, Ontwa Township, T8S, R15W, sections 18 and 19, while the existing lift station expansion project will be located in the same quadrangle, Ontwa Township, T8S, R15W section 7 (see Figure 1).

III. PROJECT NEED AND PURPOSE

The GBA service area has a very dense residential, commercial, industrial, and manufacturing community that disposes of wastewater using on-site septic tanks, which are failing due to poor soils; their use has negatively affected the ground water in the area.

In correspondence dated July 20, 2010, the St. Joseph County Health Department stated: *"In general, this area is not conducive to the installation of septic systems due to the high seasonal water table. Even*

though the installation of septic systems was allowed in the past, the intense development of many properties has eliminated all areas suitable for replacement septic systems. Business owners may be surprised at the extensive measures they will have to take and the costs they will incur when their existing system fails. The Health Department has had to close businesses and downsize others due to lack of suitable conditions for septic systems.”

IV. PROJECT DESCRIPTION

The proposed low-pressure sanitary sewer system will consist of individual grinder pumps that can serve between one to three property owners. Wastewater from the GBA service area will be treated by the Elkhart, Indiana, wastewater treatment plant (WWTP).

The grinder pumps and low pressure sewers will collect and convey the wastewater to a new lift station in Granger with a capacity of 185 gallons per minute (gpm). That lift station will pump the wastewater via a 6-inch forcemain to a manhole south of the Village of Edwardsburg, Ontwa Township, Cass County, Michigan. From there, a 10-inch gravity sewer will convey the flow to the C-4 lift station in Edwardsburg, which will be upgraded from 350 gpm to 500 gpm. Via a 6-inch forcemain, lift station C-4 will pump the wastewater to a gravity sewer, which will convey the flow to the C-1 lift station in Ontwa Township, which has a rated capacity of 900 gpm. The C-1 lift station will pump the wastewater to the Elkhart, Indiana sewer system via a 12-inch forcemain.

A. The proposed Granger low pressure sanitary sewer system includes installing approximately:

1. 4,641 feet of 1¼ -inch high density polyethylene (HDPE) forcemain;
2. 1,282 feet of 1½ - inch HDPE forcemain;
3. 8,111 feet of 2-inch HDPE forcemain;
4. 12,407 feet of 3-inch HDPE forcemain;
5. 4,566 feet of 4-inch HDPE forcemain;
6. 1,787 feet of 4-inch polyvinyl chloride (PVC) service lateral;
7. 132 service lateral connections;
8. eleven air/vacuum manholes;
9. 23 flushing stations;
10. 132 individual grinder pumps;
11. seven 2-foot extensions for grinder pumps;
12. six 4-foot extensions for grinder pumps;
13. 105 alarm disconnect panels for simplex pumps;
14. 27 alarm disconnect panels for duplex pumps;
15. 10 spare grinder pump cores;
16. 10 spare grinder pump controls for simplex pumps;
17. 10 spare grinder pump controls for duplex pumps;
18. 1,700 square yards of concrete drive restoration;
19. 580 square yards of gravel drive restoration;
20. 200 square yards of asphalt drive restoration; and
21. 2,490 square yards of asphalt pavement.

- B. The proposed upgrade to Lift Station C-4 includes:
1. replacing 4-inch piping and valves with 6-inch piping and valves;
 2. replacing the control panel;
 4. replacing two 350 gpm pumps with two 500 gpm pumps;
 5. installing one permanent standby generator; and
 6. upgrading the electrical service.
- C. The proposed regionalization between the GBA and Ontwa Township includes installing:
1. approximately 13,507 feet of 6-inch ductile iron pipe or HDPE forcemain;
 2. one lift station with two pumps each having a rated capacity of 185 gpm;
 3. hydrogen sulfide odor control equipment;
 4. approximately two air release valves and manholes;
 5. approximately two hybrid air release valves and cleanouts;
 6. approximately one flushing station; and
 7. one connection to an existing manhole.
- D. The preliminary design flow for the proposed GBA service area is:
- | | |
|----------------------------|--------------------------------------|
| Domestic Flow | 27,610 |
| Commercial/Industrial | <u>105,748</u> |
| Average Design Flow | 133,358 gallons per day (gpd) |
- E. The organic loadings are assumed to be approximately:
- 5 day Carbonaceous Biochemical Oxygen Demand--290 milligrams per liter (mg/l);
 - Total Suspended Solids--210 mg/l
 - Ammonia-Nitrogen--40 mg/l.

V. ESTIMATED PROJECT COSTS, AFFORDABILITY AND FUNDING

A. Selected Plan Estimated Cost Summary

<u>Construction Items</u>	<u>Estimated Cost</u>
1. Low Pressure Sanitary Sewer System	\$1,822,193
2. Upgrade to Lift Station C-4	89,000
3. Regionalization with Ontwa Township	<u>587,075</u>
Subtotal Construction Cost	\$2,498,268
Contingency	<u>249,827</u>
Total Estimated Construction Cost	\$2,748,095
 <u>Non-Construction Items</u>	
1. Capital Buy-In (Ontwa Township)	\$ 395,000
2. Capital Buy-In (Elkhart)	423,900
3. Administrative and Legal	75,000

4. Land & Right of Way Acquisition Soft Costs	48,000
5. Land Acquisition*	50,000
6. Engineering Design	297,696
7. Engineering Construction & Inspections	168,609
8. Other Engineering Services	25,000
9. Start-Up Costs	<u>40,000</u>
Total Estimated Non-Construction Cost	\$1,523,205

Total Estimated Project Cost \$4,271,300

* Ineligible for State Revolving Fund (SRF) Loan Program funding

- B. The St. Joseph County Regional Water and Sewer District will borrow approximately \$4,221,300 from the SRF for a 20-year term at a fixed interest rate to be determined at loan closing. Local funds will pay for the land acquisition.

VI. DESCRIPTION OF EVALUATED ALTERNATIVES

Several collection system alternatives were evaluated including the “No Action” alternative.

- A. **“No Action”**: This alternative was rejected since the failing on-site septic systems would continue to discharge inadequately treated sewage into nearby streams or ditches and cause a potential public health problem.
- B. **Gravity Collection System**: This alternative involved the installation of 8-inch gravity sewers and a lift station, which would pump to a WWTP. This alternative was dismissed due to high costs.
- C. **Low Pressure Sewer System**: This alternative involves the installation of grinder pumps that would serve from one to three properties. Wastewater from the properties would be pumped via small diameter pressure sewers to a main lift station, and from there to a WWTP. Based on cost, this was the selected alternative.

Several treatment system alternatives were evaluated including the “No Action” alternative.

- A. **“No Action”**: This alternative was rejected.
- B. **Extended Aeration**: This alternative proposes a process which mixes and aerates wastewater and biosolids for 24-hours. The long aeration time allows the biosolids to be partially digested and reduces need for large digestion capacity. This alternative was dismissed due to high costs.

- C. **Regionalization Alternative:** This alternative involves sending wastewater to an existing WWTP for treatment. Neither South Bend nor Mishawaka could accommodate the flow from the GBA service area, due to demands on their own sewer systems. Elkhart indicated that it could not provide service via a direct connection. Due to an interlocal agreement with Ontwa Township in Michigan, Elkhart indicated it could accept the GBA flow via Ontwa Township, since a line already sends flow to Elkhart from the C-1 lift station in Ontwa Township. The District executed an Interlocal agreement with Ontwa Township, and Ontwa Township executed an interlocal agreement with Elkhart to accept the GBA flow. Based on cost, this was the selected treatment alternative.

VII. ENVIRONMENTAL IMPACTS OF THE FEASIBLE ALTERNATIVES

A. Direct Impacts of Construction and Operation

Disturbed and Undisturbed Areas: The project will not affect undisturbed areas in the Indiana portion of the project. The contractor will be encouraged to install the pressure sewers by directional drilling or other trenchless technology. The forcemain from Granger and the Michigan portion of the forcemain will be installed using directional drilling. The only areas that will require excavation will be the grinder pump sites, connections of the service lines to the main line forcemain, and the connection of different sections to the main line forcemain.

The preferred forcemain route in Michigan, shown in red on figures 3 and 4, will be installed parallel to, but outside, the Canadian National railroad right-of-way next to a hedgerow on agricultural property, as well as in the previously disturbed rights-of-way along Conrad Road, Redfield Street, and M-62. An alternative forcemain route, shown in blue on figures 3 and 4, is not likely to be used.

Historic/Architectural Properties (Figure 2): Construction and operation of the project will not alter, demolish or remove historic properties in Indiana or Michigan. If any visual or audible impacts to historic sites occur, they will be temporary and will not alter the characteristics that qualify such properties for inclusion in or eligibility for the National Register of Historic Places. The SRF's finding pursuant to Section 106 of the National Historic Preservation Act is: "no historic properties affected."

Plants and Animals: The proposed project will be implemented to minimize impacts to state or federally listed endangered species or their habitat. One or two trees will have to be removed when the proposed forcemain crosses State Road 23; otherwise, trees will not be affected. The Michigan forcemain segment will be placed near a hedgerow parallel to the railroad.

Prime Farmland: The proposed project will not convert prime/unique farmland.

Wetlands (Figures 3 & 4): The proposed project will not affect wetlands.

100-Year Floodplain (Figure 5): The proposed project will not affect a 100-year floodplain.

Surface Waters: The proposed project will not affect waters of high quality listed in 327 IAC 2-1-2(3), Exceptional Use streams listed in 327 IAC 2-1-11(b), Natural, Scenic and Recreational Rivers and Streams listed in 312 IAC 7-(2), Salmonid Streams listed in 327 IAC 2-1.5-5(a)(3) or waters on the Outstanding Rivers of Indiana list (Natural Resources Commission non-rule policy document).

Groundwater: The proposed project will not affect groundwater. If dewatering is necessary, the contractor will be required to discharge to a suitable location approved by the local drainage board and also provide a suitably designed settling basin prior to discharging.

Air Quality: The proposed projects will not adversely affect air quality, other than temporary impacts due to dust and emissions.

Open Space and Recreational Opportunities: The proposed project's construction will neither create nor destroy open space and/or recreational opportunities.

National Natural Landmarks: The construction and operation of the proposed project will not affect National Natural Landmarks.

Lake Michigan Coastal Programs: The proposed project will not affect the Lake Michigan Coastal Management Zone.

B. Indirect Impacts

The District's Preliminary Engineering Report (PER) states: *The District, through the authority of its council, planning commission or other means, will ensure that future development, as well as future collection system or treatment works projects connecting to the SRF-funded facilities will not adversely impact archaeological/historical/ structural resources, wetlands, wooded areas, or other sensitive environmental resources. The District will require new development and treatment works projects to be constructed within the guidelines of the U.S. Fish & Wildlife Service, IDNR, IDEM, and other environmental review authorities.*

C. Comments from Environmental Review Authorities

The Natural Resources Conservation Service (NRCS) in Indiana stated in correspondence dated August 31, 2010: *The project to make sanitary sewer collection system improvements in the Town of Granger, St. Joseph County, Indiana, as referred to in your letter received August 23, 2010, will not cause a conversion of prime farmland.*

The NRCS in Michigan stated in correspondence dated April 5, 2011: *After reviewing your proposed project's scope and effect, I have determined that no conversion of prime, unique, or local important farmland will occur.*

The Indiana State Historic Preservation Officer stated in correspondence dated June 30, 2011: *Based on our analysis, it has been determined that no historic properties will be altered, demolished, or removed by the proposed project. This analysis is subject to the following condition:*

- *The project activities remain within areas disturbed by previous construction of a recent and non-historical nature. Please be advised that archaeological resources may exist underneath modern development.*

If any archaeological artifacts, features, or human remains are uncovered during construction, state law (Indiana Code 14-21-1-27 & 29) requires that the discovery must be reported to the Department of Natural Resources within two (2) business days.

The Michigan State Historic Preservation Officer stated in correspondence dated July 28, 2011: *Under the authority of Section 106 of the National Historic Preservation Act of 1966, as amended, we have reviewed the above-cited undertaking at the location noted above. Based on the information provided for our review, it is the opinion of the State Historic Preservation Officer (SHPO) that no historic properties are affected.*

This letter evidences the EPA's compliance with 36 CFR § 800.4 "Identification of historic properties", and the fulfillment of the EPA's responsibility to notify the SHPO, as a consulting party in the Section 106 process, under 36 CFR § 800.4(d)(1) "No historic properties affected."...If the scope of the work changes in any way, or if artifacts or bones are discovered, please notify this office immediately.

On June 17, 2011, the SRF contacted the 12 federally recognized tribes in Michigan; only one response has been received to date. The Keweenaw Bay Indian Community Interim Tribal Historic Preservation Officer stated in correspondence dated July 28, 2011: *The KBIC Tribal Historic Preservation Officer has identified no properties of interest regarding religious or cultural sites documented at this time in you[r] proposed location. If the scope of the work changes in any way, or if artifacts or human remains are discovered, please notify the KBIC THPO immediately so we can assist in making an appropriate determination.*

The Northern Indiana Field Office of the U.S. Fish and Wildlife Service (USFWS) stated in correspondence dated June 21, 2011: *These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.) and are consistent with the intent of the National Environmental Policy Act of 1969, the Endangered Species Act of 1973, and the U.S. Fish and Wildlife Service's Mitigation Policy.*

The proposed project will have no effect on wetlands or other significant habitat types. Project impacts are expected to be minor in nature. Based on a review of the information you provided, the U.S. Fish and Wildlife Service has no objections to the project as currently proposed. This precludes the need for further consultation on this project as required under Section 7 of the Endangered Species Act of 1973,

as amended. However, should new information arise pertaining to project plans or a revised list be published, it will be necessary for the Federal agency to reinitiate consultation.

We appreciate the opportunity to comment at this early stage of project planning. If project plans change such that fish and wildlife habitat may be affected, please recoordinate with our office as soon as possible.

The East Lansing Field Office of the USFWS provided web-based guidance to the SRF regarding evaluation of project effects on endangered species. Using that guidance, our Section 7 finding pursuant to the Endangered Species Act is “no effect”, meaning there will be no impacts, positive or negative, to listed or proposed resources. In a June 6, 2011 phone conversation with the East Lansing Field Office, we stated our Section 7 finding and also stated that our examination of the wetlands map of the proposed project area in Michigan did not indicate impacts to wetlands. The East Lansing Field Office confirmed its web guidance that the Service’s written concurrence is not necessary for either determination. The SRF has documented that consultation process and phone conversation in a memo to the St. Joseph County Regional Water and Sewer District’s Official SRF Loan File.

In correspondence dated September 13, 2011, the U.S. Environmental Protection Agency Ground Water and Drinking Water Branch noted that this project will not pose a substantial threat to the St. Joseph Sole Source Aquifer. In its letter, the EPA stated: *As described, it appears that this project will not pose a substantial threat to the St. Joseph Sole Source Aquifer System, a Sole Source Aquifer designated under the authority of the Safe Drinking Water Act, Section 1424(e). Unless future developments change the status of the proposal, no modifications or further review under the Sole Source Aquifer program should be necessary.*

As always, we suggest that during construction appropriate safeguards are in place to ensure that ground water is not endangered. Such precautions would include notifying general contractors that the site is sensitive, securing adequate precautions for fueling/ servicing large equipment, and developing contingency plans to handle the release of any hazardous materials.

The Indiana Department of Natural Resources Environmental Unit stated in correspondence dated August 2, 2011: *Our agency offers the following comments for your information and in accordance with the National Environmental Policy Act of 1969:*

Regulatory Assessment: *This proposal may require the formal approval of our agency pursuant to the Flood Control Act (IC 14-28-1) for any proposal to construct, excavate, or fill in or on the floodway of a stream or other flowing waterbody which has a drainage area greater than one square mile, unless it qualifies for a general license under Administrative Rule 312 LAC 10-5 that applies to utility line crossings. Please submit more detailed plans to the Division of Water’s Technical Services Section if you are unsure whether or not a permit will be required.*

Natural Heritage Database: *The Natural Heritage Program’s data have been checked. To date, no plant or animal species listed as state or federally threatened, endangered, or rare have been reported to occur in the project vicinity.*

Fish & Wildlife Comments: *Avoid areas of concern to fish, wildlife, and botanical resources to the greatest extent possible. Be prepared to demonstrate avoidance, minimization, and mitigation of impacted resources. The following are recommendations that address potential impacts identified in the proposed project area:*

1) *Utility Line Crossings:* We recommend using the directional boring method to install the sewer line along the roadways and for crossing streams to reduce impacts to surrounding habitat. In the event the line cannot be directionally drilled where impacts are likely, they should be installed in areas that will minimize impacts to fish, wildlife, and botanical resources (such as east of the Bittersweet Road and SR 23 intersection). Install the line north of State Road 23 to reduce impacts to Judy Creek and potential wetland areas. Lines and the lift station proposed adjacent to forested areas that have little right-of-way buffer should be installed on the opposite side of the roadway to reduce the amount of tree removal to the greatest extent possible.

2) *Bank Stabilization:* Restore disturbed streambanks using bioengineering bank stabilization methods. The following is a link to a USDA/NRCS document that outlines many different bioengineering techniques for streambank stabilization:
<http://directives.sc.egov.usda.gov/17553.wba> (Choose Handbooks; Title 210 Engineering; National Engineering Handbook; Part 650 Engineering Field Handbook. Choose Chapter 16 from next window). Revegetate disturbed banks with native trees, shrubs and herbaceous plants. Stream bank slopes after project completion should be restored to stable-slope steepness (not steeper than 2:1).

3) *Riparian Habitat:* Impacts that remove trees in a non-wetland, riparian area require mitigation. When one or more acres of non-wetland forest are removed, replacement is at a 2:1 ratio based on area. If less than one acre of non-wetland forest is removed in a rural setting, replacement is at a 1:1 ratio based on area. If less than one acre of non-wetland forest is removed in an urban setting, the mitigation requirement involves planting five trees, at least 2 inches in diameter-at-breast height, for each tree which is removed that is ten inches or greater in diameter-at-breast height (5:1) mitigation based on the number of large trees). A native riparian forest mitigation plan should use at least 5 canopy trees and 5 understory trees or shrubs selected from the Woody Riparian Vegetation list (copy enclosed) or an approved equal. A native riparian forest mitigation plan for impacts of less than one acre in an urban area may involve fewer numbers of species and sizes of trees, depending on the level of impact. Additionally, a native herbaceous seed mixture should be planted consisting of at least 10 species of grasses, sedges, and wildflowers selected from the Herbaceous Riparian Vegetation list (copy enclosed) or an approved equal.

Revegetate all bare and disturbed areas streambanks using a mixture of grasses, sedges, wildflowers, vines, shrubs, and trees native to Northern Indiana and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion. A native herbaceous seed mixture should be planted consisting of at least 10 species of native grasses, sedges, and wildflowers selected from the Herbaceous Riparian Vegetation list or an approved equal.

4) *Wetland Habitat: Due to the presence or potential presence of wetlands on site, we recommend contacting and coordinating with the Indiana Department of Environmental Management (IDEM) 401 program and also the US Army Corps of Engineers (USACE) 404 program.*

Fish, wildlife, and botanical resource losses as a result of this project can be minimized through implementation of the following measures.

- 1. Revegetate all bare and disturbed areas with a mixture of grasses (excluding all varieties of tall fescue) and legumes as soon as possible upon completion; low endophyte tall fescue may be used in the ditch bottom and side slopes only.*
- 2. Minimize and contain within the project limits inchannel disturbance and the clearing of trees and brush.*
- 3. Do not work in the waterway from April 1 through June 30 without the prior written approval of the Division of Fish and Wildlife.*
- 4. Do not cut any trees suitable for Indiana bat roosting (greater than 3 inches dbh, living or dead, with loose hanging bark) from April 1 through September 30.*
- 5. Appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the stream or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized.*
- 6. Seed and protect all disturbed streambanks and slopes that are 3:1 or steeper with erosion control blankets (follow manufacturer's recommendations for selection and installation) or use an appropriate structural armament; seed and apply mulch on all other disturbed areas.*
- 7. Do not excavate or place fill in any riparian wetland.*

The Michigan Department of Natural Resources, Wildlife Division, in correspondence dated August 1, 2011, stated: *The following is a summary of the results of the review in Cass County, section 24, T8S R16W and sections 7, 18, 19, T8S R15W:*

The project should have no impact on rare or unique natural features at the locations specified above if it proceeds according to the plans provided. Please contact me for an evaluation if the project plans are changed.

VIII. MITIGATION MEASURES

The District's PER lists the following mitigation measures:

Erosion control plans will be prepared for Indiana and Michigan, [and] corresponding permits obtained and enforced throughout the construction process.... The contractor will be required to restore disturbed areas to preconstruction conditions, or better, prior to project completion. The project will be subject to the conditions set forth in erosion control plans submitted for review and approval to the appropriate local review agencies. The contractor will be required to comply with the terms and conditions of the permits.

The contractor will be required to utilize trenchless pipe installation techniques for most of the project with limited ability and/or locations to utilize conventional open-excavation methods. This will significantly reduce the amount of land-disturbing activities.

IX. PUBLIC PARTICIPATION

A properly publicized public hearing was held at 5:30 p.m., on September 2, 2010, in the St. Joseph County Commissioners Conference Room, County-City Building, 227 West Jefferson Boulevard, 7th Floor, in South Bend, Indiana. Attendees asked if construction could be stopped and inquired about letters sent to property owners; Ms. Clark responded.

Another properly publicized public hearing was held at 5:30 p.m., on April 14, 2011, at the same location; there were no questions about the project raised by the public.

LEGEND

- PROPOSED LIFT STATION
- PROP 1.5" LINE
- PROP 2" LINE
- PROP 3" LINE
- PROP 4" LINE
- PROP 6" LINE
- PROP ALT 6" FORCE MAIN
- EXIST FORCE MAIN
- EXIST GRAVITY SEWER
- WETLANDS
- JUDAY CREEK

WIGHTMAN PETRIE
 CONSULTING ENGINEERS &
 LAND SURVEYORS
 4703 Chester Drive
 Elkhart, IN 46516
 p: 574.293.7762
 f: 574.293.3717

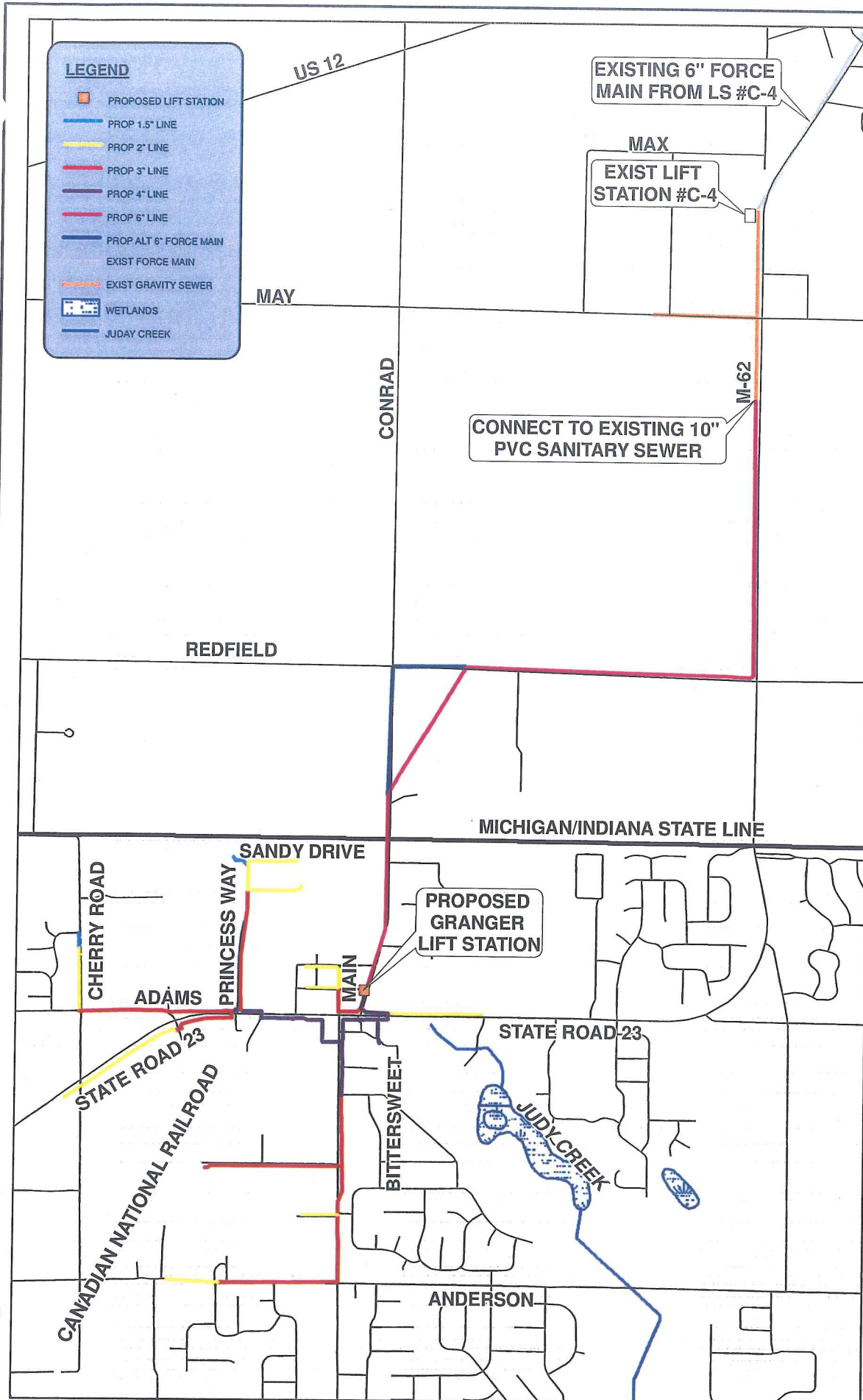
ST. JOSEPH CO.
 REGIONAL WATER & SEWER DISTRICT
 SANITARY SEWER FEASIBILITY STUDY
 GRANGER BUSINESS DISTRICT
 LOW PRESSURE SEWER
 SYSTEM ALTERNATE

**ST. JOSEPH CO. REGIONAL WATER & SEWER DISTRICT
 SANITARY SEWER FEASIBILITY STUDY
 GRANGER BUSINESS DISTRICT
 LOW PRESSURE SEWER SYSTEM ALTERNATE**

N

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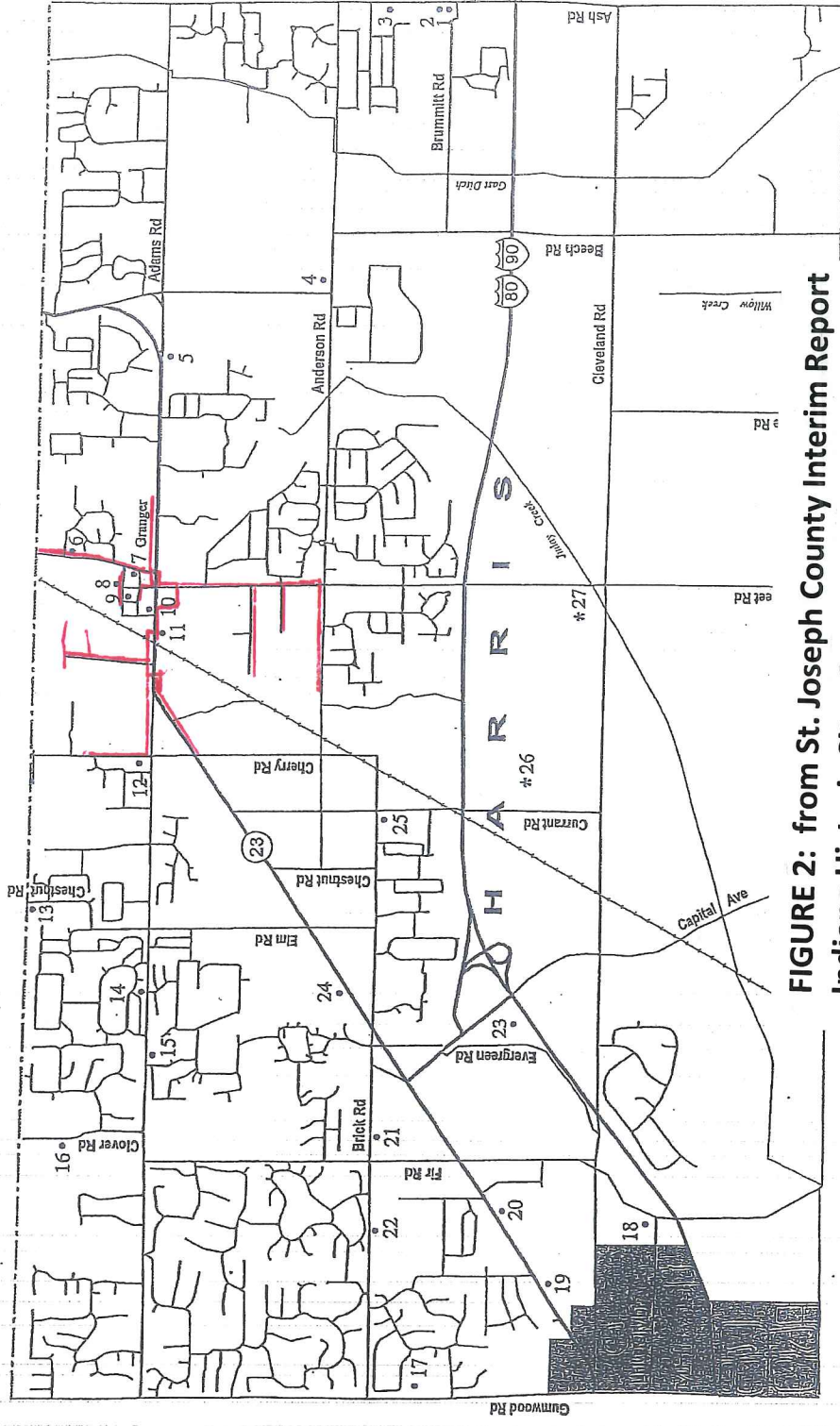
FIGURE 1



G:\2008-5115\ENGIN\Fig 8 - LPSS Alternate Layout.mxd

received 6/8/11

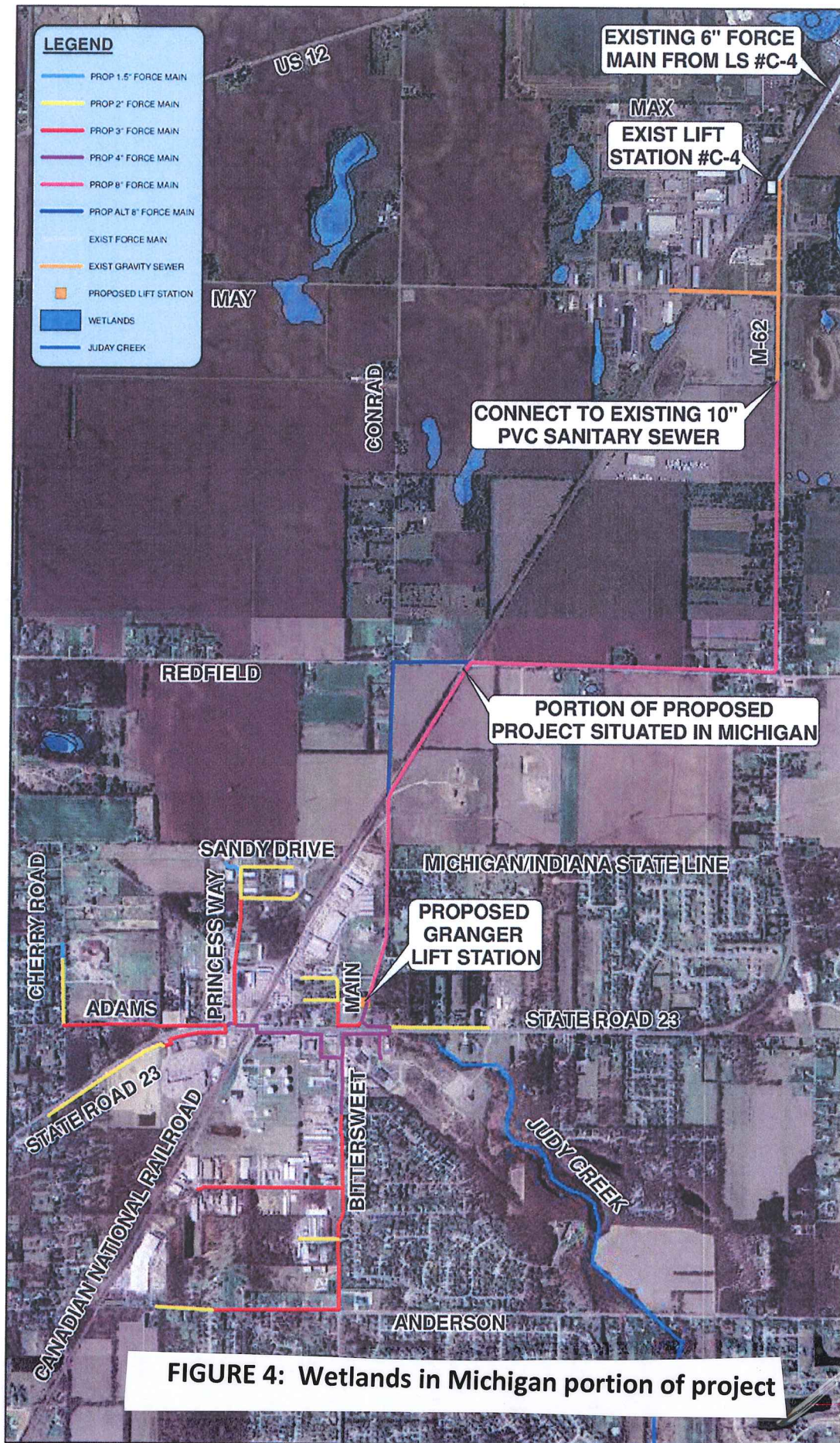
Harris Township (00001-027)



**FIGURE 2: from St. Joseph County Interim Report
Indiana Historic Sites & Structures Inventory**

(*) Indicates newly added sites since the 2000 publication



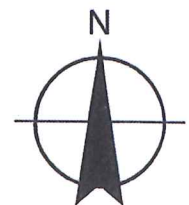


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GRANGER BUSINESS ASSOCIATION
SANITARY SEWER FEASIBILITY STUDY
GRANGER BUSINESS DISTRICT
MICHIGAN WETLANDS MAP



0 1,000 2,000
SCALE = 2000'

DRAWN BY: DATE:
DK OCT 2010

revised April '11

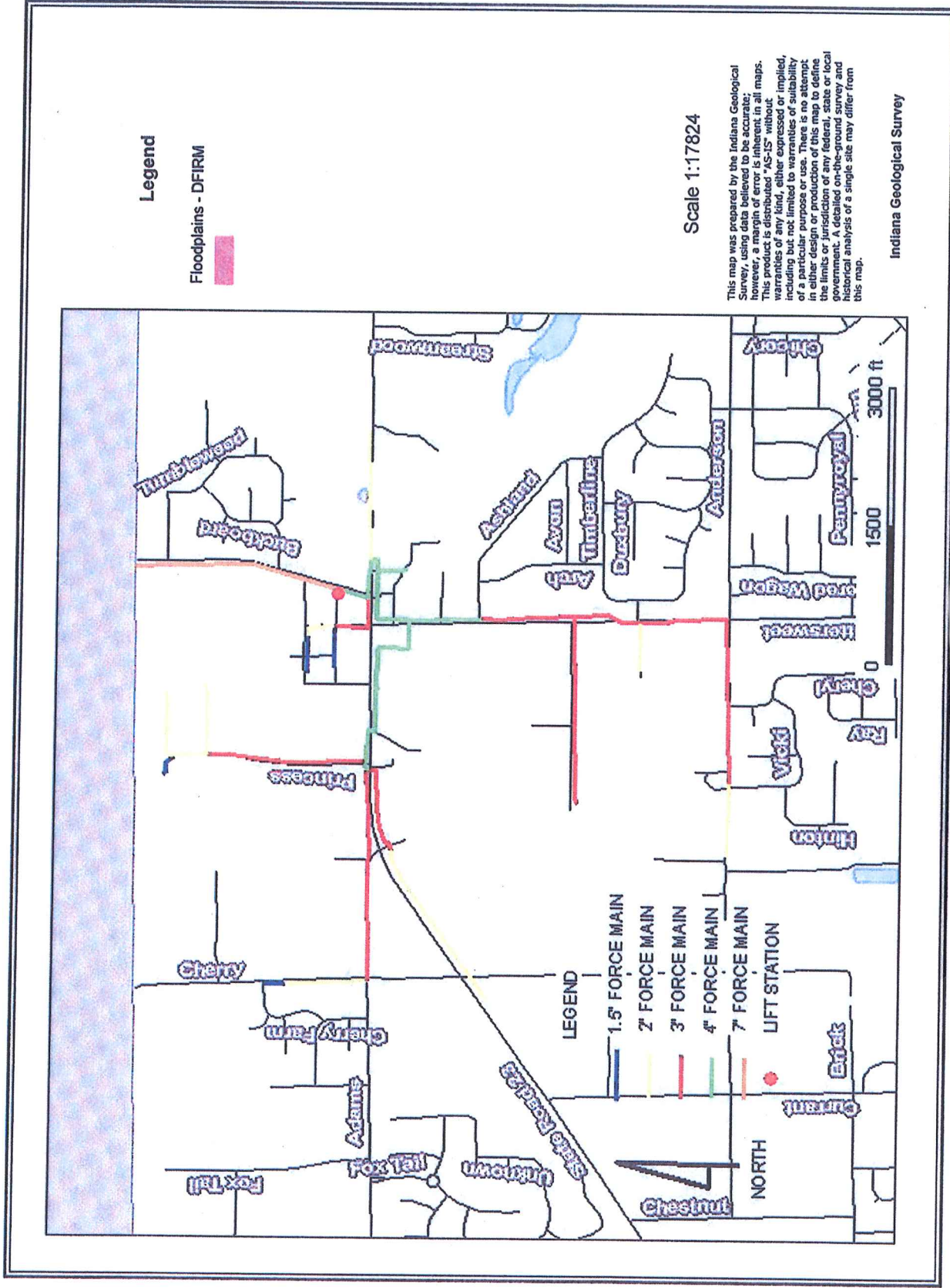


FIGURE 5: 100-Year Floodplain